

The DX Bulletin

SPECIAL REPORT

• America's Oldest Weekly Amateur Radio Publication •

Chod Harris VP2ML Editor

TS-940S Phase Noise Fix from Kenwood

Dear TDXB:

This letter is in regards to a letter from one of your readers, Mr. Gonsior [W6FR] regarding the TS-940S and what he describes as a "Phase noise" problem.

We received the first reports concerning this characteristic at the Dayton Hamvention. We subsequently discussed the problem with you at the show and indicated our intent to confirm the presence of the symptom. The ARRL had recently tested the TS-940S and no "phase noise" was noted. [See below. -ed.] They were able to measure the blocking dynamic range without any problem.

We reported these comments to our Engineering department in Tokyo to see if they could provide additional information on these reports. They had not received any comments from the various other worldwide Kenwood sales offices, and informed us that this type of problem would require some testing to determine the cause, and cure, if a problem could actually be isolated.

In his letter, Mr. Gonsior stated that we reported no knowledge of this problem at the Visalia DX Convention. We said that we had received some comments concerning the possibility of this characteristic but had not been successful in confirming its existence. We informed anyone who asked, that we would continue to examine this problem and would publish our findings as soon as an answer was received.

Enclosed you will find a Service Bulletin, number 911, which addresses an improvement in the Carrier to Noise ratio of the TS-940S. Our Engineering department was able to identify an area where some improvement could be made. The enclosed engineering change is a result of this effort. It is supplied for your inspection and, at your discretion, publication for your readers, as long as proper credit is given. We are confident that the enclosed bulletin will address the random reports of adjacent channel interference during transmit, or receive.

Kenwood follows a policy of providing service information to its customers whenever we are able to do so, in such a manner as to ensure that the performance of the radio will actually improve, or that the reported problem will be corrected. We do not rush into any quick fixes, since we have found that this type of action usually results in more problems for the owner. A careful, logical examination of the problem must be completed, and thorough testing of the proposed change must be performed before we will release any engineering change. The main problem with any "out of the ordinary" type of problem, such as reported in this instance, is to filter through the various reports so that the actual problem can be identified. Then, and only then, can an accurate response be provided.

To answer an additional comment by Mr. Kroenert [KA1PL]. He is correct in his interpretation regarding the TS-930S and the TS-940S, in that the phase noise characteristics of the TS-940S are indeed lower than the TS-930S. Since we have not tested the ICOM IC-751, we will defer comment on that radio.

Kenwood is pleased to provide written or telephone assistance to radio amateurs with a technical question, an operational question with one

of our products, or with a general question on Amateur Radio operation. We can be reached at:

Trio-Kenwood Communications
Attn: A/R Technical Service
1111 West Walnut Street
Compton CA 90220

We also provide technical assistance Monday through Friday from 08:30-17:00 PST, at (213) 639-7140. Parts may be ordered at (213) 639-9000.

Sincerely, (s) Craig L. Martin KR6T
Customer Service Manager

[The introductory paragraph on Kenwood Service Bulletin 911 reads:]

We have received random reports of an apparent problem with the Carrier to Noise ratio when the radio is operated under marginal band conditions. The Carrier to Noise ratio of the TS-940S may be improved by the following changes. The improvement that can be expected will be on the order of 15dB within the range of +/- 20 kHz from the center frequency of the VCO. This change will be incorporated on all units shipped from Trio-Kenwood after 9/15/86.

TDXB's Comment: Congratulations to Kenwood for coming to grips with a difficult problem. And thanks to all the TDXB readers whose comments encouraged Kenwood to investigate the problem. We'll all have better radios and cleaner bands as a result.

Kenwood's recommended changes on the PLL unit involve adding a couple of capacitors, removing a few capacitors, and changing the values of two resistors. Kenwood states that the time required for this modification is one hour or less. A complete copy of Kenwood's Service Bulletin 911 is available from The DX Bulletin for an SASE. Who will be the first TDXB reader to test out this change?

The ARRL and Phase Noise

[In response to a query to ARRL's Technical Information Service about phase noise in the TS-930, ARRL Technical Information Specialist Bob Schetgen KU7G replied:]

Phase noise is generated as a PLL frequency synthesizer constantly shifts frequency looking for lock up. It is a problem with many synthesized transmitters, but we (and others) have not yet been able to find a way to quantify the problem. QST will not discuss phase noise until there is some meaningful information on the subject.

TDXB's Comment: In other words, the ARRL is not even going to mention this acknowledged problem until there is "meaningful information," whatever that is. That explains why QST could review the TS-940S and not mention phase noise difficulties. Meanwhile the May 1986 issue of Radio Communications, the RSGB journal, discusses "reciprocal mixing" in detail. What other defects with popular radios have the ARRL's staff found that they are hiding from their membership, because they have no "meaningful information" on the subject?

Obviously Kenwood engineers think they know how to both measure phase noise, and how to reduce it. Maybe they'll share some of their techniques with the ARRL Technical Department!

September 1986 TDXB •

SPECIAL FEATURE

t. Athos - Chapter 2

[Four Italian DXers attempted to stage a DXpedition to t. Athos SV/A in August, only to have their permissions cancelled after intervention of the Radio Amateur Association of Greece (RAAG). Here is what RAAG has to say about the incident.]



Dear TDXB:

We were informed (we, the active SV DXers) from several sources that a big Italian DXpedition will start from the 13th/23rd of August in SV/A. By asking the Greek Authorities we confirmed that indeed an expedition was in preparation. But not a DXpedition, because the license for the Italians was for a "scientific research and observation of the sunspot cycle."

For your information there is not any reciprocity agreement regarding amateur radio between Italy and Greece and this license was issued by exception to a scientific group for the above mentioned reasons. Our surprise was great when we learned that the scientific group consisted of four very well known Italian DXers. We started to wonder if the current name of a QSO is "scientific observation," and, if so, what "scientific observation" is possible with an endless string of 5-9 reports from the skyhigh pileups.

Both licenses A) Greek Civil Authorities, B) Religious Authorities, were granted for the sake of science and not for amateur radio activities, so we were answered from the Greek Government categorically, when our Radio Amateur Association of Greece asked the proper authorities and it was cleared up that no amateur activity of the kind will be permitted from the SV/A area.

So the Greek Government to prevent a possible misunderstanding of the given scientific license, issued an additional explanatory document which was specifically clarified that no transmission was allowed on the radio amateur bands. This additional explanatory document was handed to the Italian group on the 7th of August 1986.

Those are the facts in brief, for any interested DXer, and if IØIJ believes otherwise, he must recheck his papers and what he did apply for. RAAG did not cancel anything or forced the cancellation of any non existing DXpedition license and that is the bitter truth for IØIJ which he never wants to understand.

(s) SV1PL RAAG Adm. Council Member
SV1OL RAAG HF Committee
SV1SQ RAAG HF Committee

Dear TDXB:

...Because I myself as a DXer as well as being RAAG Administrative Council Member, I went as official RAAG observer inside Mt.

Athos area to see whether or not the local laws would be obeyed from the Italian DX Group or not. Luckily for them they did so.

I think that you have to publish everything, rumor or not, but not making comments about foreign Associations (like RAAG) and to let your readers know both sides on every aspect of DX. Local Greek laws must be respected from all (foreigners and locals). Since no Greek Radio Ham can take permission no other can take also. (We mean the proper way.)

In the future, we have been told, that RAAG will manage to take permission for Athos, by applying with some selected DX team (foreigners including as guest operators.) Some rumors say that at least one Monk will give exams for his license, so we hope it will be easier.

The above are also for DL7FT and any other who tried in the past to operate as SV/A with no written permission....The word "Diamonitirion" as Mr. Turek DL7FT insists it is the written permission, it is only the visa to stay inside Athos as visitor and nothing else. Don't make comments if you don't know the facts, please.

If Don Search of DXCC wants to make it valid or not, it's another story. It's DXCC willingness and nothing else. But not the truth. The truth is that noone took a valid written permission (including W6LAS/SV/A) from [since? ed.] 1979 and 1980 DXpeditions of SV1IW, SV1JG, etc. We have applied to Holy Mountain Secret Community and they replied that no person with name Frank Turek took such a permission to operate Ham Radio equipment.

So all visitors take a visa named "Diamonitirion," It is very easy for myself especially to take thousands of "Diamonitirion" and getting on the air as SV1PL/A. And Don Search must take it, of course. Is that what you want for reactivated Mt. Athos? Or to have good, clear documentation for everyone? This dirty story with Mt. Athos must have finally a happy end. I don't know how or when.

But since Monks are very suspicious with all these facts of many people trying to get ham radio permission from there, I think that the better is that RAAG must do her best to keep Mt. Athos clear in the DX scene and we have all the right for it. Or we have better to make official application as RAAG to the Secret Community. They prefer so, they told. Please wait.

Best 73s (s) Angelo Fourimos SV1PL
RAAG Admin. Council Member
RAAG QSL Manager

PS: Don't confuse the name for DX (DXpedition from rare country) with any other of National Laws and other gimmicks to have a DXCC valid one. Sometimes it will be dangerous.

TDXB's Comment: Operating a DXpedition under the guise of a "scientific study of propagation and sunspots" is a standard DXpeditioner ploy. I have used that technique myself from spots all over the globe. It sure beats trying to explain DXCC and DXpeditioning to local authorities. Crazy scientists they can understand, but not the concept of someone travelling to a faraway place only to sit in a stuffy room and shout into a radio. So if the Italians had valid licenses permitting the operation, why did RAAG go to the Greek authorities to have the anti-amateur radio document issued?

The DX Bulletin has no quarrel with RAAG "defending its DX turf," but only if they mount their own DXpeditions often enough to provide DXers a reasonable chance to work Mt. Athos. If they can't get permission themselves, then they should assist those who can, in the interest of all DXers. A notice on the monastery wall reads, "This land subject to miracles." Let's hope that we don't have to wait for a miracle to get Mt. Athos on the air again.



Will Frank Turek's DL7FT/SV/A operation count for DXCC? Only time will tell.

A European Viewpoint

Dear TDXB:

I do not agree completely on the comments that have been made in the States for what the operations of FO0XX and 3C0A are concerned.

From here the Clipperton expedition has not been very good for what the operators are concerned. Have disliked particularly their working split the Ws and working Europe on zero beat CW. Have heard them working five European stations in 10 minutes, they were listening only on 14205, and everyone was there calling. But the best was when they worked Europe on 40 SSB, with one kHz of split. Here it was almost impossible to hear them, they were completely covered by the pile-up one kHz above.

For what the 3C0A is concerned it was very very easy to work them on all bands from southern Europe. They have been calling for hours and hours on 15 meters with not too many customers. It was enough to call a couple of times to work them, apart from the first two days. Their signal was string also on 40 and 80 meters, even if in this last band they have worked on lists and a lot of people have made QRM. On ten meters the propagation has been peculiar but they have been worked in the morning, in the afternoon, and sometimes also during the night. Signal was not string but they were workable as late as midnight, local time. Worked them on all bands CW, SSB, and on 20 meters also on RTTY. Maybe this is the reason why I do consider them good operators.

It is always the same old story, if you work them they have been good. Otherwise the blame is only on them. But with the actual propagation it is not only a matter of quality of the expeditioners, it's a Russian roulette game.

(s) Mario Ambrosi I1MOP

TDXB's Comment: Obviously being situated due north of the DXpedition makes a big difference in contacts, especially at the bottom of the sunspot cycle. Clipperton is a chip shot from the States, just as Pagalu is from Italy. The longer haul QSOs are much more difficult. But TDXB's concern about the 3C0A operation stemmed primarily from their practice of not giving the full call of the station they were working. They often gave only two letters, creating considerable confusion and prompting many "insurance" contacts. And how many DXers will find themselves "not in log," because 3C0A worked another station with a similar callsign at the same time?

In defense of the Pagalu operation, they did make more than 16,000 contacts from a rare location, which should drive 3C0 far down the Most Wanted list. QSLs are now in the mail for the 3C0A contacts, and the F00XX cards will be sent out soon.

Revilla Ggedo

Another DXCC "country" suffers from some of the same problems as Mt. Athos. The 1986 Clipperton crew tried to get permission to operate from XF4, but they were turned down by the Mexican authorities. TDXB asked Pablo Mooser XE1SR, President of Liga Mexicana de Radio Experimentadores (LMRE is the Mexican equivalent of the ARRL) why permission to operate from XF4 is so hard to obtain. He replied that LMRE didn't want a DXpedition at the bottom of the sunspot cycle as it would frustrate those unable to work XF4 because of poor propagation. It seems to TDXB that not having an operation at all frustrates far more DXers! If the Mexicans won't put XF4 on the air, they should at least encourage others to do so.

Low Band DXpedition to Greenland - OX

Dear TDXB:

After my visit to the Faroes last Sept., my wife and I decided to try Greenland this year. I wrote to Carsten OX3CS, and immediately received a very kind reply offering help and the use of equipment at Julianehab in southern Greenland. Unfortunately travel problems prevented our going to Julianehab, so we decided to visit Godthab, the largest city in Greenland.

My wife Inger and I arrived on Sept. 1, after a DC-10 to Copenhagen and a DC-8 to Sondre Stromfjord connected us to a DeHaviland Dash-7 STOL Greenland Air flight into Godthab. We landed in a 60-knot rain storm and were thanking our good luck for having made it that far when we were met by two locals hams: Alan OX3AM and Peter OX3XR. They had heard from OX3CS that we were coming and had determined the date and flight number by a little local G-2. They were very helpful and kind to us during our entire trip and became good friends.

The main purpose of our trip was a sightseeing vacation, but when the 60-knot gale turned into a 60-knot blizzard, it looked like there would be some time for ham radio. The next challenge was getting up an antenna under the prevailing conditions. There are no trees in Greenland and little flat land. Our hotel was one of the taller buildings in town, and, better yet, it had a 40' flagpole in front. After some discussion, the management was happy to help us rig whatever antennas we wished, although I'm not sure they ever really understood what we were up to.

Since my main interest is 160 meters, that band was top priority. We rigged an inverted L up the flagpole and across the top of the hotel. Tuning it was a challenge because of the steel and wiring in the building, but we did get on the air and started making contacts on Sept. 2nd.

20 meters was easy (using the 160 antenna). We quickly made many contacts with our friends in Seattle and eager low band DXers around the country asking about 160 and 80 meter activity. Receiving conditions in Greenland to the west at sunrise on 160 were fantastic. We were able to hear as far out in the Pacific as KX6DS, KH6CC, and KH6HY, as well as all US call areas. Unfortunately the combination of [my] low power, a limited antenna, and high QRN in the States made QSOs a real challenge. We heard at least 70 low band enthusiasts that got up in the wee hours to give us a call. We could hear everyone well, but only the persistent dozen including KG7D and AI7B heard us well enough to complete a QSO during the 5-10 minute peak each morning before sunrise. Those were very exciting contacts.

The last three days we set aside to concentrate on 80 meters. Unfortunately the sky lit up with a major aurora and only two stations were worked on 80, as all the HF bands were almost dead. Good weather the second week did let us get in some sightseeing, including a helicopter trip to the ice cap.

For those faithful who didn't manage a QSO with OX/W7AWA on 80 or 160, the good news is that Peter OX3XR and Steve OX3TQ plan to get up antennas this fall and be active on 80 and 160. Look for Peter on 1833 at 30 minutes before Godthab sunrise on Saturday and Sunday mornings. I'll be there, as I still need Greenland on 160.

We had a great trip, thanks to our many new friends in Greenland.

(s) Stan Seiffert W7AWA

Worked on 160: AA1K, N1ACH, W3BGN, WA3EUL, NF3L, KG7D, AI7B, K8MFO, WB9NSZ, K9GX, K9RJ, and W0ZV. Worked on 80: W4DR and W4ZA.

Common Amateur Radio Licenses

Several European countries have joined the CEPT license system, which permits licensed amateurs in one country to operate in another country without any application or paperwork. Such a system has been in effect between the United States and Canada for several years, and the concept is spreading.

The idea is very simple: licensing authorities in each country determine which of their own amateur radio license classes correspond to which of the two CEPT license classes: VHF-only or all-band. Then when the licensee crosses the border, he or she adds the country designator to the front of his or her home call, and operates away. The procedure is only valid for short stays in another country; otherwise the amateur must apply for a reciprocal license in the usual manner.

In the first three months of this system, seven European countries have joined the CEPT system: Norway, Federal Republic of Germany (West Germany), Switzerland, Liechtenstein, Austria, the Netherlands, and Denmark. Spain and Sweden are expected to jump on the bandwagon soon. The Danish and Norwegian agreements include their European territories: Faroe Islands, Greenland, Svalbard and Bear Islands, and Jan Mayen.

So far the only fly in the ointment has been the confusion between the Netherlands and Alaska. The Dutch PTT used the country abbreviation NL for the portable designator, rather than PA. Since the Dutch had already printed up registration cards, they elected to continue the confusion for the time being. Perhaps when they run out of the current batch of cards, they will switch to the better-known PA designator.

There are almost 20 more countries in the CEPT that can implement this common amateur license, permitting instant DXpeditions throughout Europe.

The common license concept will be raised at the IARU Region 2 Conference in Buenos Aires, Argentina, in October. The delegate from Montserrat (one VP2ML) will be pushing hard for this one. Think what it will mean for contesters and DXpeditioners! Not to mention the distinct advantage of being able to operate one's HT in any airport in the hemisphere.

In the absence of such common licensing, travellers without fixed itineraries often find local licensing authorities very reluctant to grant temporary operating permission. Bernhard Stefan DL2GAC spend this past summer island-hopping in the Pacific, and he has some suggestions for others in similar situations.

In Vanuatu YJ he obtained the callsign YJ8DX in a single day, at a cost of about \$5. Vanuatu features a fully-equipped club station for the use of visiting amateurs. The station includes a Kenwood TS-830, 3-element triband beam, and wire antennas for the low bands. Hams can use the station for up to two weeks. What a great idea!

He also had no difficulty getting permission to operate as FK/DL2GAC in New Caledonia. He ran into serious problems getting licensed in Tahiti FO, however. He was informed that it took months to issue a temporary amateur radio license. Bernhard persisted, and called upon the island's tourist officer for assistance. Thanks to the help of the tourist board (and thanks to his FK operating permission), he was issued his license. He highly recommends contacting the local tourist office for help; they want to encourage visitors!

On the other hand, Singapore hands visitors a Catch 22: they must be a resident in the country for more than six months to get operating permission, but tourists cannot stay six months on the normal visa.